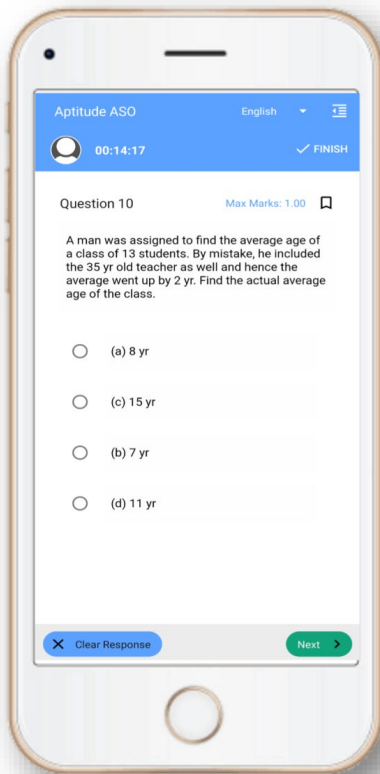


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## B - SECTION - III

## SCIENCE (PCM)

## CHEMISTRY

61. The refining of Nickel metal is done by :
- (A) Van Arkel Method
  - (B) Mond process
  - (C) Vapour-phase refining
  - (D) Zone refining
62. 50 ml of  $H_2$  diffuses out through a small hole from a vessel in 20 mins. The time needed for 40 ml of  $O_2$  to diffuse out from the same vessel is :
- (A) 12 min
  - (B) 64 min
  - (C) 8 min
  - (D) 32 min
63. Which of the following shows positive inductive effect ?
- (A)  $-NO_2$
  - (B)  $-COOH$
  - (C)  $-OCH_3$
  - (D)  $-CN$
64. According to Le-Chatelier's principle maximum yield of ammonia is obtained at :
- (A) High temperature and low pressure
  - (B) High pressure
  - (C) Low temperature
  - (D) Low temperature and High pressure
65. The volume of 0.05 N  $H_2SO_4$  solution needed to completely neutralise 25 ml of 0.1 N NaOH solution is :
- (A) 25 ml
  - (B) 50 ml
  - (C) 100 ml
  - (D) 12.5 ml
66. Which of the following ion is the smallest in size ?
- (A)  $N^{3-}$
  - (B)  $Na^+$
  - (C)  $F^-$
  - (D)  $O^{2-}$
67. Among the following covalent compounds, the compound having more polar character is :
- (A) HI
  - (B) HCl
  - (C) HBr
  - (D) HF
68. One drop of water weighs 0.018 g. Number of water molecules present in one drop of water is :
- (A)  $1 \times 10^{-3}$
  - (B)  $6.02 \times 10^{20}$
  - (C)  $22.4 \times 10^{-3}$
  - (D)  $6.02 \times 3 \times 10^2$

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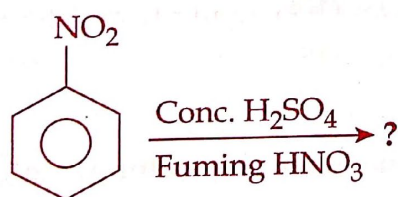
69. The relative lowering in vapour pressure of an ideal solution containing the non-volatile solute is equal to the mole fraction of the solute at a given temperature. This law is known as :

- (A) Henry's law
- (B) Van't Hoff's law
- (C) Raoult's law
- (D) Ostwald's dilution law

70. The oxide of a metal contains 40% oxygen. If the valency of the metal is 3, its atomic mass will be :

- (A) 8
- (B) 16
- (C) 36
- (D) 24

71. What will be the product of the following reaction ?



- (A) m-dinitrobenzene
- (B) o-dinitrobenzene
- (C) p-dinitrobenzene
- (D) Both o- and p-dinitrobenzene

72. According to VSEPR theory the shape of  $\text{SF}_6$  molecule is :

- (A) Trigonal bipyramidal
- (B) Regular octahedral
- (C) Pentagonal bipyramidal
- (D) Tetrahedral

73. When acetylene is passed through dil.  $\text{H}_2\text{SO}_4$  in presence of  $\text{HgSO}_4$  at  $60^\circ\text{C}$ , the organic compound formed is :

- (A) Dimethylether
- (B) Acetone
- (C) Acetic acid
- (D) Acetaldehyde

74. In the standardisation of  $\text{Na}_2\text{S}_2\text{O}_3$  using  $\text{K}_2\text{Cr}_2\text{O}_7$  by iodometry, the equivalent mass of  $\text{K}_2\text{Cr}_2\text{O}_7$  is :

- (A)  $\frac{\text{Mol. Mass}}{2}$
- (B)  $\frac{\text{Mol. Mass}}{3}$
- (C)  $\frac{\text{Mol. Mass}}{6}$
- (D) Same as molecular mass

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75. ZnS is not precipitated by passing  $H_2S$  through acidified  $ZnCl_2$  solution, but CuS is precipitated by passing  $H_2S$  through acidified  $CuSO_4$  solution. The reason for this is :

- (A)  $K_{sp} CuS \gg K_{sp} ZnS$   
 (B)  $K_{sp} CuS = K_{sp} ZnS$   
 (C)  $K_{sp} CuS \ll K_{sp} ZnS$   
 (D) None of these

76. The uncertainty in the momentum of an electron is  $1 \times 10^{-5} \text{ kg m/s}$ . The uncertainty in its position will be ( $h = 6.62 \times 10^{-34} \text{ kg m}^2/\text{s}$ ) :

- (A)  $1.05 \times 10^{-28} \text{ m}$   
 (B)  $1.05 \times 10^{-26} \text{ m}$   
 (C)  $5.27 \times 10^{-30} \text{ m}$   
 (D)  $5.27 \times 10^{-28} \text{ m}$

77. The correct order of electron gain enthalpy among the following is :

- (A)  $F > Cl > Br$   
 (B)  $Br > Cl > F$   
 (C)  $Cl > F > Br$   
 (D)  $F > Br > Cl$

78. The set of quantum numbers for 19<sup>th</sup> electron of Chromium atom is :

	n	l	m	s
(A)	3	0	0	$1/2$
(B)	3	2	-2	$1/2$
(C)	4	0	0	$1/2$
(D)	4	1	0	$1/2$

79. Which of the following is an electrophile ?

- (A)  $H_2O$   
 (B)  $NH_3$   
 (C)  $AlCl_3$   
 (D)  $CH_3NH_2$

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80. The ore containing two different metals is :

- (A) Haematite  
 (B) Galena  
 (C) Copper pyrite  
 (D) Magnetite